

Who is Correct?

We need help determining the cost of new floor tiles for our bathroom. Marble tiles cost \$7 each, and granite tiles cost \$5. We need 40 marble tiles, 15 granite tiles, plus a bag of adhesive that costs \$10. Can you write a single mathematical sentence to determine this cost?

Mark wrote: $10 + (7 + 5) \times (40 + 15)$

Doug wrote: $10 + (7 \times 40) + (5 \times 15)$

Andy wrote: $10 + 7 \times 40 + 5 \times 15$

1. Which equation could be used to determine the correct total cost? Show how you know.
2. Andy went on to demonstrate how he knew that he was correct.

$$\begin{aligned} 10 + 7 \times 40 + 5 \times 15 &= 17 \times 40 + 5 \times 15 \\ &= 680 + 75 \\ &= 755 \end{aligned}$$

What error did he make? How can you help him correct his mistake?